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ABSTRACT

In a method for crystallizing an amorphous silicon film by a heat treatment that is effected for a duration of about 4 hours at about 550°C using a catalyst element for accelerating the crystallization, the quantity of the catalyst element to be introduced into the amorphous silicon is precisely controlled. A resist mask 21 is formed on the surface of an amorphous silicon film 12 provided on a glass substrate 11, and an aqueous solution 14, e.g., an acetate solution, containing a catalyst element such as nickel at a concentration controlled in a range of from 10 to 200 ppm (need to be adjusted) is supplied dropwise thereto. After maintaining the state for a predetermined duration of time, the entire substrate is subjected to spin drying using a spinner 15. A thin film of crystalline silicon is finally obtained by applying heat treatment at 550°C for a duration of 4 hours.